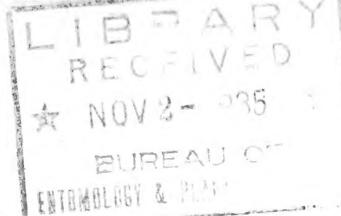


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## A DEVICE FOR REGULATING THE QUANTITY OF SPRAY

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In both experimental and commercial spraying for the control of insects and diseases there has been a distinct need for a device to regulate under pressure the quantity of spray used on each unit treated. The writers have given considerable attention to such a device in connection with investigations involving the use of paradichlorobenzene-crude cottonseed oil emulsion and other materials for the control of the peach borer working in the trunk and roots of peach trees under ground. As a result, an apparatus has been perfected which will spray out under pressure accurate quantities of sprays.

This apparatus operates on the principle of the cylinder in a steam engine. Two two-way valves are geared together (fig. 2) and are reversed simultaneously by one push on a lever. With valve C (fig. 1) in the position to direct the flow of spray from the tank through pipe I into chamber E, assuming of course that chamber F is already full of spray, force is exerted on the plunger which pushes it forward and forces the spray contained in chamber F out through pipe G, valve D, pipe B, and the spray rod. Chamber E is then full of spray at the end of this operation. When the lever is pushed, reversing simultaneously valves C and D, the flow of the spray is changed and directed through pipe J into chamber F, which pushes the plunger back, expelling the spray contained in chamber E out through pipe H, valve D, pipe B, and the spray rod.

In one end of the metal cylinder is inserted a pin (K) which regulates the length of the plunger stroke. By changing the length of this pin the quantity of spray expelled by each stroke of the plunger is changed. The greatest capacity of the device illustrated by the diagrammatic drawing is 1 quart; however, the same principle can be utilized for a device with a capacity of several gallons, in which case the attachment should be made on the sprayer between the tank and spray hose instead of between the spray hose and spray rod as illustrated for the apparatus with maximum capacity of 1 quart. In fact, with the device of smaller capacity the attachment next to the tank is also more satisfactory.

This device has been thoroughly tested for both experimental and commercial spraying (fig. 3) and found to be very accurate, easily handled and operated, efficient, practical, and entirely satisfactory for spraying a definite quantity of spray mixture on each unit to be treated.

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DEVICE FOR REGULATING THE QUANTITY  
OF LIQUID USED FOR SPRAYING.

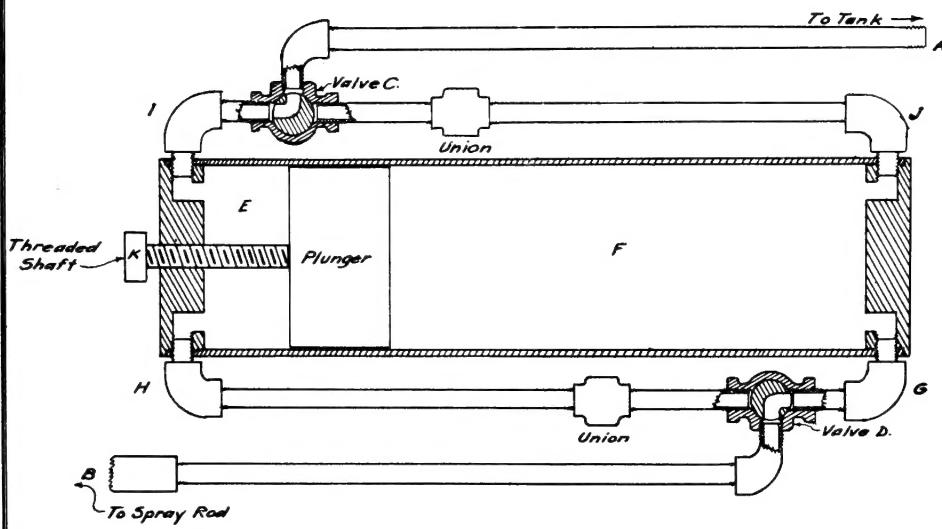


FIG. I - DIAGRAM OF DEVICE FOR REGULATING  
THE QUANTITY OF LIQUID USED FOR SPRAYING.

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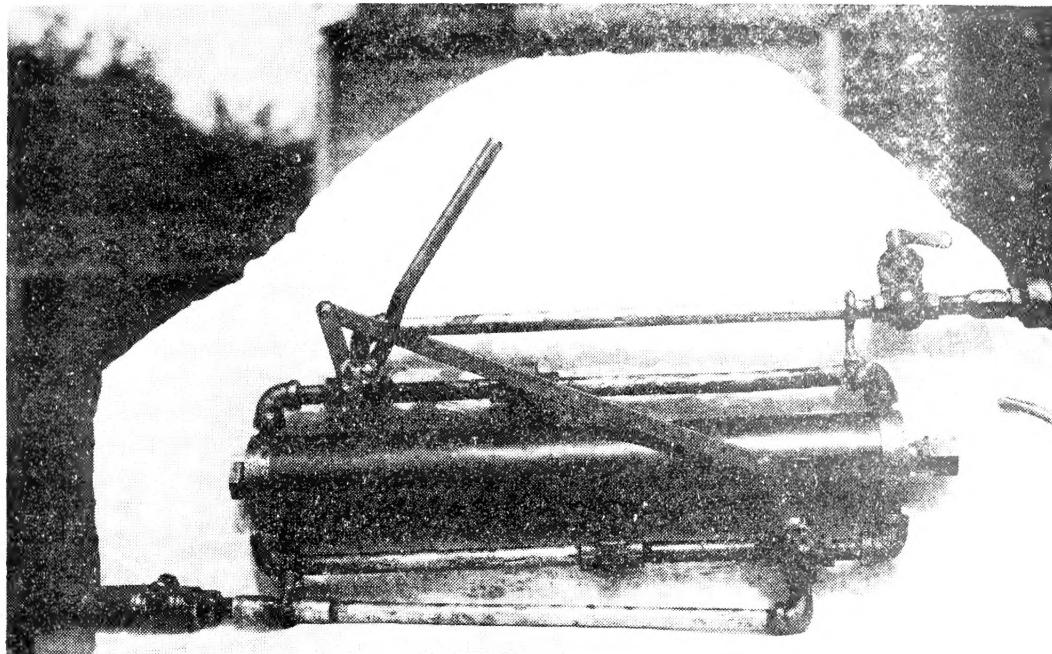


Figure 2.--General view of the device



Figure 3.--Using the device for regulating the quantity of liquid used in spraying. As a rule, it is more satisfactory to have the device attached next to the spray tank and operated by a second person.

